

## **PATTERNS OF PARTICIPATION IN ACTIVE RECREATION AND LEISURE BOREDOM AMONG UNIVERSITY STUDENTS**

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### **ABSTRACT**

*Students will experience leisure boredom when they are not exposed to active recreation. The study aimed to determine the participation patterns in active recreation of undergraduate students at a South African university and to what degree they experience leisure boredom. A once-off cross-sectional design consisting of a sample of 581 students was used. Questions related to demographic information, participation frequency, participation format and leisure boredom were included. There were statistically significant differences between the gender groups' participation frequencies in netball ( $p=0.010$ ) and social dancing ( $p=0.044$ ). There were statistically significant differences between all racial groups' leisure boredom ( $p=0.000$ ). Medium to large practical significant differences were found between Indian/Asian and Coloured ( $d=0.9$ ), Coloured and White ( $d=0.7$ ), and Indian/Asian students and African students ( $d=0.6$ ). Statistically significant differences ( $p=0.017$ ) for leisure boredom were found in the total sample for all three accommodation types. Most students prefer to participate on their own or with their friends sharing the same interests, but not all on-campus activities cater to individual participation. This could be because students are more likely to choose activities that provide social opportunities, with the social factor as the second highest-rated motivational factor for active recreation participation.*

**Keywords:** active recreation, campus recreation, intramural sport, leisure boredom, undergraduate students.

### **INTRODUCTION**

An estimated 50%–60% of first-year students drop out of higher learning institutions during their first year of studies (Van Zyl, cited by Areff, 2015). The reason for this alarming statistic is complex, with various factors contributing to students' decisions to drop out. However, one solution that may prevent students from dropping out of university is increasing student involvement and participation in campus recreation (Demetriou & Schmitz-Sciborski, 2011; Zegre *et al.*, 2022). Research has shown that regular participation in campus activities, such as campus recreation sport (CRS), has a positive impact on the health, mental and social factors of students (Kanters, 2000; Dalgarn, 2001; Haines, 2001; Edginton *et al.*, 2004; Artinger *et al.*, 2006; Forrester, 2014; Anderson *et al.*, 2016). Forrester (2015) also notes that the more students participate in CRS, the better their overall health and satisfaction with life will become. In contrast, if not exposed to CRS, undergraduate university students can experience leisure

boredom that can lead to feeling unhappy, developing low self-confidence, abusing substances and, in the end, dropping out of university (Malinauskas *et al.*, 2014; Swanepoel *et al.*, 2015). Although for many students on-campus recreational facilities are the primary environment for physical activity to occur (Shaikh *et al.*, 2018), it should be noted that students also engage in various activities outside of CRS, as there are many opportunities for leisure and recreation activities off campus that also benefit students (Anderson *et al.*, 2016). Considering student participation in off-campus recreation offerings may be important to understanding student recreation participation patterns, as students staying off campus are less likely to participate in CRS (Young *et al.*, 2003) and may prefer off-campus recreation offerings. Additionally, numerous South African students lack the proper motivation to participate in recreational activities, owing to not fully understanding the benefits that these activities hold and being unfamiliar with the university environment (Dhurup, 2012). This may affect their participation in both CRS and off-campus recreation and possibly lead to experiencing leisure boredom.

Leisure boredom may be described as the negative state of mind influencing a person's perception of an experience (Wang, 2014). Leisure boredom can be experienced as a meaningless and pointless way of participating in leisure activities (Wang, 2014) and can limit the ability of students to control their leisure experiences or lead to non-participation in CRS or recreation in general. Hickerson and Beggs (2007) explained that if boredom created a problem during the critical development of leisure behaviour, participants might look for relief during their leisure time by experimenting with undesirable methods and behaviours. Subsequently, although many undergraduate students displayed positive leisure behaviour, some may exhibit negative behaviour or deviance such as internet addiction or alcohol abuse, to name a few, in their leisure (Hickerson & Beggs, 2007; Wang, 2014). Deviant behaviours in students may be caused by a lack of leisure skills such as teamwork, communication and problem-solving, and the presence of leisure boredom (Wang, 2014). CRS has significant value in student involvement: it provides students with the opportunity to interact with other students, become involved in the university community and avoid leisure boredom (Agyar, 2013).

In South Africa, research into and evidence on the patterns of undergraduate university student participation in active recreation, including CRS, is limited. In contrast, universities in the USA and Canada have experienced growth in their body of knowledge of CRS patterns and benefits (Weilbach, 2013), with this growth continuing and expanding to include issues of accessibility of CRS to different university populations (e.g., Hunt & Griffeth, 2020; Oakes *et al.*, 2020; Wilson *et al.*, 2023). However, students do not engage only in CRS but also various off-campus recreation sports and activities, and considering all types of active recreation, both on campus and off campus, may provide a true reflection of undergraduate student engagement in active recreation. Given the importance of participation in CRS and active recreation, not only for students but also for universities, it is important to understand student participation in active recreation, including CRS, and the degree of boredom that students experience. This can be done by answering the following research questions: What are the participation patterns in active recreation of undergraduate students, and to what degree do they experience leisure boredom? A broader understanding of these factors may assist universities in improving their CRS services, to better serve the student population and optimise the benefits of CRS. When student needs are better understood, changes can be made in how South African universities plan and deliver CRS activities and use these facilities to meet student recreation needs (Miller *et al.*, 2008).

## METHODOLOGY

### Research design

A once-off cross-sectional research design with a quantitative approach was used for this study, which formed part of a more extensive study. Ethical approval (NWU-0034-16-A1-03) was obtained.

### Sample

The study's target population included all male (N=7554) and female (N=9725) full-time registered undergraduate students from a South African university aged between 18 and 30 years. A survey design was used and not a random sample from a population, hence no sample size calculations were made. However, research carried out in similar populations and with similar research topics had response rates of between 300 and 800 completed questionnaires (Beggs *et al.*, 2005:145; Elkins *et al.*, 2011:27). In the end, 581 students participated in the study, which is in line with similar studies.

### Data collection and analyses

An online survey was used consisting of various research instruments relevant to the study. These included a demographic questionnaire (gender, race, accommodation type), a questionnaire on the frequency and format of participation in recreational sport, and items related to leisure boredom from the leisure experience battery for young adults by Barnett (2005). The boredom items were answered on a five-point Likert scale to determine the level of agreement that students had with the question (5=strongly agree; 4=agree; 3=neutral; 2=disagree; 1=strongly disagree). The link to the online survey was placed on the online learning management system of the university. After giving informed consent, access to the research survey was granted.

The data analysis was conducted in conjunction with the statistical consultation services of the university and described the student participation patterns in active recreation (including CRS) and leisure boredom. Because of the size of the sample, the central limit theorem stating that means of large populations would be normally distributed was valid (Field, 2009). Therefore, parametric statistics, including mean scores, standard deviations and frequencies, were reported. Effect sizes, t-tests and ANOVAs, with Tukey's post-hoc tests, were used to determine the statistical and practical significance and the differences between demographic variables and factors were extracted.

## RESULTS

First in this section the characteristics of the study sample are presented and then the analyses of the frequency of participation in various active recreational activities and student leisure boredom are discussed.

Of the 581 students that completed the survey, 88.1% (n=512) had participated in some form of active recreational activity. The sample consisted of 48% male students and 52% female students. The races included White (71%), Black (22%), Coloured (6%) and Indian/Asian (1%). The study included students living in three different residential types: campus residences on the campus premises (29%), town residences (9%), where students do not live on the campus

premises but are still part of a hostel, and private residences, both within the boundaries of the city and outside of the city limits (62%).

After analysing 60 active recreational activities, the top 10 activities in which students participated the most frequently were identified. Table 1 outlines the top 10 activities, based on the average frequency of participation, in terms of gender, race and accommodation type. Both male and female students were very active in participating in similar active recreational activities, such as general exercise, road running, jogging and field hockey. In terms of race, White, African, Coloured and Indian/Asian students participated in general exercise the most. Students living on campus, in town residences, and at private residences had similar frequencies for the top three activities.

**Table 1. THE 10 RECREATIONAL ACTIVITIES STUDENTS IN WHICH STUDENTS PARTICIPATE ACCORDING TO THE FREQUENCY OF PARTICIPATION (TIMES PER MONTH)**

Top 10 recreational sport activities	Average participation frequency per month								
	Gender		Race				Residential type		
	Male	Female	White	African	Coloured	Indian /Asian	Campus	Town	Private
General exercise <sup>1</sup>	14.92	14.37	14.88	11.50	25.20	23.18	16.26	13.18	14.06
Road running <sup>2</sup>	11.58	9.09	10.34	8.94	23.00	11.33	16.33	9.00	9.31
Jogging <sup>3</sup>	10.84	10.74	10.56	9.91	18.83	5.50	11.76	10.68	10.14
Field hockey	6.80	7.24	6.82	8.22	10.00	5.50	7.45	7.14	6.22
Swimming for fun	4.83	5.75	8.40	5.50	6.00	3.60	5.30	4.50	5.55
Social dancing	4.38	6.55	5.05	8.23	14.00	0.00	5.61	6.06	5.73
Squash	4.13	3.45	3.95	1.00	0.00	3.67	3.64	3.56	4.32
Field soccer	2.98	2.15	4.88	5.62	10.50	4.33	6.87	5.50	4.90
Hiking	2.05	2.91	2.50	3.50	3.33	1.67	2.96	3.90	2.02
Golf	2.98	2.15	2.94	2.00	0.00	2.00	2.14	2.70	3.44

<sup>1</sup>General exercise: gymnasiums, boot camps, etc.

<sup>2</sup>Road running: marathons, competitive running, etc.

<sup>3</sup>Jogging: park runs, non-competitive running, etc.

**Table 2. DIFFERENCES ACCORDING TO GENDER IN THE FREQUENCY OF PARTICIPATION IN THE TOP 10 RECREATIONAL SPORT ACTIVITIES**

	Total (N)	Gender (n)		$\bar{X}$		SD		p-value	d
		Male	Female	Male	Female	Male	Female		
General exercise	260	119	141	14.92	14.37	12.575	13.249	0.729	0.04
Jogging	195	89	106	10.84	10.74	9.728	11.374	0.944	0.01
Swimming for fun	133	60	73	4.83	5.75	5.799	7.291	0.419	0.13
Squash	99	60	29	4.13	3.45	3.972	2.585	0.332	0.17
Golf	72	59	13	2.98	2.15	3.707	1.144	0.156	0.22
Field soccer	78	59	19	6.12	4.47	5.038	2.220	0.052	0.33*
Touch rugby	59	58	1	7.41	1.00	10.736	–	–	‡
Road running	82	48	34	11.58	9.09	10.724	10.816	0.305	0.23
Table tennis	72	39	33	5.10	6.52	5.025	8.168	0.457	0.17
Hiking	82	37	45	2.05	2.91	1.810	4.597	0.256	0.19
Yoga	47	6	41	6.33	7.68	7.394	7.541	0.690	0.18
Netball	51	11	40	3.09	6.80	2.737	6.966	0.010†	0.53**
Putt-putt	62	35	27	2.49	1.78	5.008	1.311	0.428	0.14
Social dancing	99	37	62	4.38	6.55	4.633	5.805	0.044†	0.40

\*Small effect size:  $d=0.3$ ; \*\*Medium effect size:  $d=0.5$ ; \*\*\*Large effect size:  $d=0.8$ . †Statistical significance:  $p\leq 0.05$ .

‡ Number of female participants too small to draw conclusions.

$d$  = effect size SD = standard deviation  $\bar{X}$  = average frequency.

In Table 2, the focus is not on the number of students who participate in the various activities but on the average frequency of participation and the difference in these based on gender. Statistically significant differences in frequency between gender group participation in netball ( $p=0.010$ ) and social dancing ( $p=0.044$ ) were reported. A slight practical difference was found for field soccer ( $d=0.33$ ), and a medium practical significant difference for netball ( $d=0.53$ ).

It is clear from Table 3 that general exercise, jogging and road running were the top three activities that White and African students took part in in terms of frequency. According to the top 10 activities, Coloured students took part in touch rugby the most, whereas African students took part in it the least. African students were the only students for whom basketball was in the top 10 activities. White students preferred to take part in field hockey and swimming for fun. African students participated in swimming for fun the least of all the racial groups. Golf, tennis and hiking were the activities with the lowest participation frequency within the top 10.

In terms of residential type (Table 4), general exercise, jogging, field hockey and road running were the activities most participated in. Differences between preferred activities were identified based on residential types. Town residence students frequently participated in athletics and private residence students preferred road running over field hockey. Campus residence students frequently participated in table tennis, whereas town residence students frequently took part in off-road running.

Table 5 shows the format (i.e., in hostel teams, with private clubs, with family, with friends, or on their own) in which students participated in active recreation activities. Participating with friends was identified as the most popular format for participation for most activities, although general exercise, road running and jogging were primarily participated in by students individually. Students preferred to participate in field soccer, field hockey and road running within the hostel and private clubs. As seen in Table 5, students participated in swimming for fun and hiking in a family format.

**Table 3. TOP 10 RECREATIONAL ACTIVITIES RANKED ACCORDING TO FREQUENCY OF PARTICIPATION (TIMES PER MONTH), BY RACE GROUP**

	White			African			Coloured			Indian/Asian					
	N	SD	$\bar{X}$	N	SD	$\bar{X}$	N	SD	$\bar{X}$	N	SD	$\bar{X}$			
General exercise	182	12.07 4	14.88	General exercise	62	8.345	11.50	Touch rugby	2	49.497	37.00	General exercise	5	28.385	25.20
Jogging	126	11.09 3	10.56	Jogging	53	7.779	9.91	General exercise	11	27.228	23.18	Road running	3	6.351	11.33
Road running	59	9.718	10.34	Road running	17	8.807	8.94	Jogging	12	14.807	18.83	Swimming for fun	5	9.915	8.40
Field hockey	51	7.919	6.82	Basketball	15	6.043	7.33	Social dancing	3	14.731	14.00	Jogging	4	3.416	5.50
Swimming for fun	104	7.068	5.50	Field soccer	45	4.735	5.62	Field soccer	6	6.473	10.50	Field soccer	3	2.517	4.33
Table tennis	54	6.377	5.50	Off-road running	10	4.849	4.80	Swimming for fun	4	4.243	6.00	Squash	3	1.155	3.67
Squash	85	3.645	3.95	Indoor soccer	15	3.283	4.73	Table tennis	2	2.121	5.50	Indoor soccer	2	0.707	3.50
Golf	64	3.563	2.94	Touch rugby	11	4.735	4.73	Tennis	2	0.000	4.00	Golf	3	1.732	2.00
Hiking	74	3.754	2.50	Tennis	14	4.762	4.29	Chess	2	2.121	3.50	Hiking	3	1.155	1.67
Putt-putt	59	3.941	2.24	Swimming for fun	20	2.664	3.60	Yoga	3	2.000	3.00	Indoor hockey	2	0.707	1.50

N = number of participants SD = standard deviation  $\bar{X}$  = average frequency of participation per month.

**Table 4. TOP 10 RECREATIONAL ACTIVITIES RANKED ACCORDING TO FREQUENCY OF PARTICIPATION (TIMES PER MONTH), BY RESIDENTIAL TYPE**

<b>Campus</b>	<b>N</b>	<b>SD</b>	<b><math>\bar{X}</math></b>	<b>Town</b>	<b>N</b>	<b>SD</b>	<b><math>\bar{X}</math></b>	<b>Private</b>	<b>N</b>	<b>SD</b>	<b><math>\bar{X}</math></b>
General exercise	78	16.002	16.26	General exercise	28	9.157	13.18	General exercise	154	11.703	14.06
Jogging	71	13.091	11.76	Jogging	19	9.753	10.68	Jogging	105	8.820	10.14
Field hockey	31	9.615	7.45	Field hockey	14	6.585	7.14	Road running	54	8.068	9.31
Field soccer	30	5.077	6.87	Social dancing	17	4.697	6.06	Social dancing	44	6.511	5.73
Netball	33	7.178	6.73	Netball	3	2.309	5.33	Swimming for fun	78	5.951	5.55
Table tennis	32	7.318	6.50	Touch rugby	8	4.749	4.63	Field soccer	40	4.012	4.90
Social dancing	38	4.529	5.61	Swimming for fun	18	3.854	4.50	Squash	37	4.691	4.32
Swimming for fun	37	8.888	5.30	Athletics	6	5.357	4.50	Tennis	32	3.689	3.94
Squash	36	2.870	3.64	Off-road running	4	4.082	4.00	Golf	34	4.322	3.44
Golf	28	1.627	2.14	Squash	16	1.548	3.56	Hiking	48	1.756	2.02

N = number of participants SD = standard deviation  $\bar{X}$  = average frequency of participation per month.



**Table 5. THE 10 CAMPUS RECREATIONAL SPORT ACTIVITIES IN WHICH STUDENTS MOST FREQUENTLY PARTICIPATED, BY PARTICIPATION FORMAT**

Format of activity	Gender, %		Race, %				Residential type, %		
	Male	Female	White	African	Coloured	Indian/ Asian	Campus	Town	Private
<b>General exercise</b>									
Hostel teams	1.7	0.0	0.5	1.6	0.0	0.0	1.3	2.6	0.0
Private clubs	2.5	4.3	3.8	3.2	0.0	0.0	2.6	5.6	3.9
Family	0.9	2.1	2.3	0.0	0.0	0.0	0.0	0.0	2.6
Friends	27.7	20.6	22.5	24.2	36.4	40.0	32.0	16.8	20.8
On my own	67.2	73.0	70.9	71.0	63.6	60.0	64.1	75.0	72.7
<i>Total</i>	100	100	100	100	100	100	100	100	100
<b>Road running</b>									
Hostel teams	–	–	–	–	–	–	–	–	–
Private clubs	14.5	5.9	11.9	5.9	33.3	0.0	20.0	15.4	7.4
Family	4.2	11.8	8.5	5.9	0.0	0.0	6.6	0.0	9.3
Friends	27.1	29.4	27.1	29.5	33.3	33.3	26.7	30.8	27.7
On my own	54.2	52.9	52.5	58.7	33.4	66.7	46.7	53.8	55.6
<i>Total</i>	100	100	100	100	100	100	100	100	100
<b>Jogging</b>									
Hostel teams	1.1	0.0	0.8	0.0	0.0	0.0	1.4	0.0	0.0
Private clubs	2.2	1.9	3.2	0.0	0.0	0.0	2.8	0.0	1.9
Family	4.5	3.8	2.4	7.5	0.0	25.0	1.5	0.0	6.7
Friends	27.0	35.8	31.0	35.9	25.0	25.0	36.6	21.1	30.3
On my own	65.2	58.5	62.6	56.6	75.0	50.0	57.7	78.9	61.1
<i>Total</i>	100	100	100	100	100	100	100	100	100
<b>Field hockey</b>									
Hostel teams	73.4	42.4	62.7	22.2	100.0	50.0	87.1	64.4	0.0
Private clubs	13.3	21.2	15.7	22.2	0.0	50.0	0.0	21.4	44.4
Family	0.0	6.1	3.9	0.0	0.0	0.0	3.2	7.1	0.0
Friends	13.3	24.2	15.7	44.4	0.0	0.0	9.7	7.1	44.4
On my own	0.0	6.1	2.0	11.2	0.0	0.0	0.0	0.0	11.2
<i>Total</i>	100	100	100	100	100	100	100	100	100
<b>Swimming for fun</b>									
Hostel teams	–	–	–	–	–	–	–	–	–
Private clubs	–	–	–	–	–	–	–	–	–
Family	20.0	15.0	19.2	20.0	0.0	75.0	5.4	5.6	30.8
Friends	46.7	59.0	56.7	60.0	100.0	0.0	75.7	72.2	43.6
On my own	33.3	26.0	24.1	20.0	0.0	25.0	18.9	22.2	25.6
<i>Total</i>	100	100	100	100	100	100	100	100	100
<b>Social dancing</b>									
Hostel teams	0.0	3.2	1.2	0.0	33.3	–	5.3	0.0	0.0
Private clubs	8.1	3.2	2.5	23.1	0.0	–	2.6	5.9	6.8
Family	–	–	–	–	–	–	–	–	–
Friends	89.2	87.1	92.6	61.5	66.7	–	89.5	88.2	86.4
On my own	2.7	6.5	3.7	15.4	0.0	–	2.6	5.9	6.8
<i>Total</i>	100	100	100	100	100	100	100	100	100
<b>Squash</b>									
Hostel teams	6.7	10.3	8.2	0.0	–	0.0	16.7	6.3	0.0

Private clubs	1.7	0.0	1.2	0.0	–	0.0	0.0	0.0	2.7
Family	6.7	13.8	9.4	0.0	–	0.0	2.8	18.8	10.8
Friends	83.3	65.5	76.5	100.0	–	100.0	72.2	75.1	83.8
On my own	1.6	10.4	4.7	0.0	–	0.0	8.3	0.0	2.7
<i>Total</i>	100	100	100	100	100	100	100	100	100
<b>Field soccer</b>									
Hostel teams	33.9	47.4	75.0	17.8	50.0	0.0	76.7	62.5	2.5
Private clubs	16.9	10.5	0.0	22.2	33.3	0.0	3.3	12.5	25.0
Family	–	–	–	–	–	–	–	–	–
Friends	49.2	31.6	25.0	55.6	16.7	100.0	20.0	25.0	67.5
On my own	0.0	10.5	0.0	4.4	0.0	0.0	0.0	0.0	5.0
<i>Total</i>	100	100	100	100	100	100	100	100	100
<b>Hiking</b>									
Hostel teams	–	–	–	–	–	–	–	–	–
Private clubs	0.0	4.4	2.7	0.0	0.0	0.0	0.0	10.0	2.1
Family	21.6	44.5	36.5	0.0	0.0	33.3	29.2	50.0	33.3
Friends	64.9	46.7	52.7	100.0	100.0	66.7	62.5	30.0	56.3
On my own	13.5	4.4	8.1	0.0	0.0	0.0	8.3	10.0	8.3
<i>Total</i>	100	100	100	100	100	100	100	100	100
<b>Golf</b>									
Hostel teams	–	–	–	–	–	–	–	–	–
Private clubs	3.4	0.0	3.1	0.0	–	0.0	0.0	0.0	5.9
Family	16.9	15.4	14.1	40.0	–	33.3	21.4	30.0	8.8
Friends	71.2	69.2	73.4	60.0	–	33.4	75.0	60.0	70.6
On my own	8.5	15.4	9.4	0.0	–	33.3	3.6	10.0	14.7
<i>Total</i>	100	100	100	100	100	100	100	100	100

Table 6 indicates that no statistically significant differences were found between gender groups in terms of leisure boredom. ANOVA showed statistically significant differences between all racial groups for leisure boredom ( $p=0.000$ ). Subsequently, the Tukey post-hoc test showed underlying differences when the leisure boredom of different racial groups was compared, with Coloured students experiencing less boredom than Indian/Asian students. In terms of effect sizes, medium to large significant differences were found between Indian/Asian and Coloured ( $d=0.9$ ), Coloured and White ( $d=0.7$ ), and Indian/Asian students and African students ( $d=0.6$ ).

ANOVA showed statistically significant differences ( $p=0.017$ ) for leisure boredom in the total sample for all three accommodation types. Subsequently, when the leisure boredom of the different accommodation types was compared, there were two underlying differences: a minor practical significance ( $d=0.3$ ) between campus accommodation and private accommodation and a medium underlying difference between campus accommodation and town accommodation ( $d=0.6$ ). Thus, the leisure boredom of students living in campus residences is lower than those living in town residences and private residences. Lastly, students living in private residences experienced more leisure boredom than students living in campus or town residences.

**Table 6. GENDER, RACE AND ACCOMMODATION DIFFERENCES IN LEISURE BOREDOM**

		N	$\bar{X}$	SD	p-value
<b>Gender</b>	Male	281	2.39	0.872	0.148
	Female	300	2.50	0.935	
<b>Race</b>	Indian/Asian	16	2.09	1.001	0.000*
	Black	194	2.65	0.877	
	Coloured	37	2.96	0.914	
	White	334	2.29	0.873	
<b>Accommodation</b>	Campus	169	2.30	0.868	0.017*
	Town	54	2.35	0.906	
	Private	358	2.53	0.915	

\*Statistical significance:  $p \leq 0.05$ .

$\bar{X}$  = mean SD = standard deviation.

## DISCUSSION

The aim of this study was to determine patterns in the frequency of participation of undergraduate students in active recreational activities, including CRS, as well as the leisure boredom they experience. The findings revealed differences in the active recreation activities in which students take part and in the format in which they prefer to participate in them, based on gender, race and accommodation type. Results are discussed here according to participation patterns and leisure boredom, emphasising the importance of active recreation, including CRS, for university students.

### Participation patterns

Mugwedi and Mulibana (2014) found low participation levels in recreational sports activities at tertiary institutions among students. Based on Table 1, seven of the top 10 activities (general exercise, road running, jogging, swimming for fun, social dancing, hiking and golf) occurred off campus and did not necessarily require university facilities. Students may participate in these activities independently and/or in a group. Some students prefer to participate in such activities alone, possibly because not all on-campus activities cater to individual participation, such as road running, marathons or park runs. Universities can look to offer more CRS activities that focus on individual participation and not only focus on group participation or team-based sports. The top 10 activities in Table 1 consist mainly of self-directed informal sports that focus on fun and fitness (Ross, 2006). This classification of sport is the least structured. Knowing that students participate frequently in more informal recreational sports activities, universities can focus on providing more opportunities for informal recreational sports activities. According to Ross (2006), not all students participate in competitive recreational sports and are more interested in activities that focus on fun and are self-directed, as seen in Table 1.

Furthermore, the results show that both male and female students participate actively in all active recreational activities. Bloemhoff (2010), however, found that male students are more active in physical activities than female students. Also, Barcelona and Ross (2002) stated that male students were more involved in CRS activities than female students. All the activities

available for the students in this study are suitable for both male and female students – female students also participate in field soccer, whereas male students also participate in netball. No significant differences were found between the genders in choosing their activities. However, Table 2 indicates that female students participated significantly more frequently in netball and social dancing than male students. This could be because netball is traditionally seen as a woman's sport and has only recently started to cater for men (Tagg, 2016). Social dancing requires high energy levels and physical fitness (Asci, 2002). This activity was more likely to be participated in by female students, and this could be because they find the energetic activity fun, seek to improve their overall physical fitness and self-perception, and prefer to participate in a group format (Asci, 2002). Other reasons for the frequent participation of female students in social dancing is that it allows them to interact with people and form new relationships, and it is informal with few required administrative resources (Ross, 2006).

It is clear from Table 3 that Coloured students took part in touch rugby the most, whereas African students took part in it almost the least. Although the frequency of participation in touch rugby was high, the number of students who participated was low, possibly due to the small number of Coloured students who participated in the study and the fact that it is mostly played by male students. It could be that Coloured students participate more because of the social aspect of the sport and less so for competitive reasons (Morrell, 2017). Table 3 also shows that African students took part in swimming for fun the least of all the racial groups, and this could be due to cultural differences such as swimming aptitude having an impact on specific activities, or that these students may not have had the necessary access to swimming facilities (Layne *et al.*, 2020).

Table 4 shows that the frequency of active recreation participation of students living in private residences is the lowest of the three residential types. This may be because they have different needs to other students in terms of activities, or because the environment and access to available facilities/activities may determine their participation. Alternatively, these students may feel that they have not developed friendships with other students who are able to participate; thus, they may not feel sufficiently comfortable to participate in all the CRS activities (Henchy, 2011). Another reason may be that students residing off campus or privately are constrained from participating in CRS activities and other forms of active recreation owing to lack of transport and their belief that these activities are inaccessible. Selvaratnam *et al.* (2021) support this statement, adding that constraints reduce student frequency of participation in CRS activities.

Table 5 shows that “on your own” and “friends” are the most popular formats for student participation. Three out of 10 of the top 10 activities are generally engaged in alone, such as general exercise, road running and jogging. This leads to the question of why students take part in these active recreation activities independently. This can be answered by examining the behavioural regulation of students (Ryan & Deci, 2002). Students may participate because of identified regulation, meaning that they participate because of the identified benefits that they will receive (Ryan & Deci, 2002), for example losing weight or being healthier. Therefore, students will acknowledge the importance of their behaviour and regulate it accordingly (Ryan & Deci, 2000). For example, when students participate more in active recreation that focuses on general exercise and jogging, in which they usually participate alone, they may do so because they have identified it as an activity that may benefit their participation in other active recreation or CRS activities, such as field soccer, netball or athletics, to name a few. In addition,

intrinsic motivation may be a factor in students participating alone. When students are motivated through self-determination, personal goals or personal rewards, they are intrinsically motivated (Ryan & Deci, 2000). Some students may be interested in only participating alone in active recreation activities. Referring to the self-determination theory continuum of Ryan and Deci (2000), when students participate in these informal active recreation activities because of intrinsic motivation, it is for pure enjoyment and not to compete with others. Thus, when students feel comfortable in a specific environment and know that they are in control of their outcome, the feeling of intrinsic motivation will enhance participation (Ryan & Deci, 2000).

Seven of the top 10 activities in Table 5 were carried out with friends: field hockey, swimming for fun, social dancing, squash, field soccer, hiking and golf. This could be because students are more likely to choose activities that provide social opportunities (Beggs *et al.*, 2014). Various reasons for participating with friends in a group were identified by Beggs *et al.* (2014), including needing interpersonal relationships, receiving a self-esteem boost from friends, being more comfortable doing certain things with familiar people, and developing and maintaining friendships. Beggs and colleagues (2014) found in their study that the social factor was the second highest-rated motivational factor for CRS participation. Additionally, it is possible that, especially in the context of residences, introjected regulation may be applicable, as students may participate in active recreation and CRS based on the motivation of gaining approval from others, such as fellow residence members.

### **Leisure boredom**

As seen in Table 6, the leisure boredom of the Indian/Asian racial group was lower than that of African and Coloured students, and White, African and Coloured students also differed from one another. Coloured students experienced the most leisure boredom of the racial groups. Coloured students may experience a lack of interest and reduced intention to participate in activity (amotivation) because they may feel that the university does not cater to their leisure needs, as Weilbach (2013) reported. Some students may only participate in activities if the activities are sensitive towards their specific ethnic group and if they can participate with friends from the same ethnic group, as not all students are comfortable enough with making friends with people of other race groups (Walker *et al.*, 2007). Providers of active recreation programmes including CRS should, therefore, aim to provide programmes in a climate and environment that is favourable for everyone, making everyone feel at home and able to participate. Walker and colleagues (2007) found similar results where, in their case, Asian students experienced more interpersonal constraints in participating in activities. They were more likely to experience leisure boredom, due to not having a significant other with whom to participate and not having a sense of belonging (Walker *et al.*, 2007).

Considering the accommodation types, students living in campus residences had lower leisure boredom than students living in town and private residences. These students can access activities more easily than students living off campus. Not all students living off campus have the transport to travel to and from the campus to participate in activities presented at various times of the day (Allen & Farber, 2018). Students may depend on specific types of transport that may operate only at certain times of the day. Weilbach (2013) stated that students staying in private accommodation experienced more structural constraints than students staying in hostels. Programmes need to be developed that are accessible to all students at any time of the

day, to maximise participation. This could be done using campus transport to locate students to and from a specific central location in town. Programmes can also be presented during lunchtime (12:00–14:00) when most students have a free class period and can participate without excess travelling to and from campus.

## CONCLUSION

Campus recreation, including campus recreation sport, has been identified as crucial to ensuring student wellness, and an instrument in recruiting students to university and in improving academic performance and lowering student drop-out rates. The results of this study indicate that students participate mainly individually or with friends in informal off-campus recreational offerings. This suggests that the university may spend money on recreation services, infrastructure and facilities without fulfilling students' recreation needs and, therefore, without obtaining all the potential benefits related to campus recreation. The university needs to review its current programmes and decide how and when it wishes to present active recreation and CRS programmes. Its marketing strategy to current students also requires review with the university deciding whether it is optimally satisfied with how the programmes are being marketed. The university must also analyse its active recreation and CRS programmes and ensure that they are inclusive and cater to diversity on campus, in line with the South African White Paper on Sport and Recreation (Department of Sport & Recreation, 2013).

Understandably, universities cannot cater for all the recreation interests that students might have; however, based on the findings, some suggestions can be made to improve recreation service delivery to students. Firstly, during emerging adulthood, university students will place a moratorium on recreational activities, meaning that they may participate in various activities with low commitment to any activities (Kleiber & Liechty, 2016). The university should recognise this and invest in dedicated campus recreation facilities that offer a wide range of activities based on student needs. Secondly, these offerings should also be presented in an informal format, so that students feel free to engage without the expectation of committing to activities. Unfortunately, it appears that the university focuses more on high performance and formal competitive sport and less on recreational participation (NWU, 2022), limiting the ability of most students to participate in recreational activities. Thirdly, recreation provision should take gender and racial differences into account and be presented inclusively and openly so that all students have the confidence to engage in the activities. Fourthly, the low participation of students staying privately off campus may be evidence that the university does not cater for all students and that students who are not part of hostel structures have limited pathways to engaging in recreation on campus. Providing recreation activities in an informal, drop-in format may partially address this problem, but the university should also investigate how these students are constrained by factors such as transport, accessibility and safety.

Recognising the limitations, the researchers can make suggestions for future studies. The sample used in this study was small (N=581). Only registered undergraduate students from a single university participated in the survey, thus limiting the generalisability of the findings to other South African universities. The survey was compiled in English; hence the terminology, language barriers and lack of knowledge of the specific field may have affected how students interpreted the survey. Future studies at other South African higher education institutions with a larger sample size need to duplicate this study to add to the body of knowledge in

understanding student participation patterns in active recreation activities and CRS. Student groups change every year in terms of diversity; therefore, including students in discussions and conducting a needs assessment will help universities to develop future programmes that will focus and deliver on student needs (Janse van Rensburg, 2018). When universities find new ways to adapt and deliver activities according to student needs, catering for participation in various active recreational activities and CRS, the benefits of campus recreation for both students and the university will be maximised.

### Conflict of interest

No conflict of interest were reported.

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